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(54) Detergent composition.

(57) A shampoo composition consists of a first, translucent gel body containing a detergent, and a second contiguous, opaque gel body containing the anti-dandruff agent zinc pyridine thione. The composition is extrudable from a collapsible tube and presents a striped appearance on extrusion.

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DETERGENT COMPOSITION

The present invention relates to a detergent composition, and particularly to a shampoo composition containing an antidandruff agent.

Antidandruff agents, such as zinc pyridine thione (zinc omadine; zinc 2-pyridine thiol-N-oxide, hereinafter referred to as ZPT) are frequently included in shampoo compositions for combatting dandruff. Many materials suitable for this type of use tend to be insoluble in aqueous solution, and hence detergent compositions containing such agents have an opaque or cloudy appearance. Transparent or translucent detergent compositions are visually attractive but are rendered opaque by the addition of these agents.

By means of the present invention, it is possible to combine the visual attractiveness of a transparent or translucent detergent composition with the advantages of an antidandruff agent.

According to the present invention, there is provided a detergent composition comprising a first transparent or translucent gel body containing a detergent, and a second substantially opaque gel body,

contiguous with the first gel body, containing an anti-dandruff agent. The composition is suitably contained in a tube or other container which is preferably collapsible, so that when the composition is discharged from the container the two gel bodies remain in contact with each other and form a self supporting gel structure.

The consistencies of the two gel bodies should be sufficiently firm to hold the bodies together in position, and yet be easily extrudable through, for example, the nozzle of a tube. Preferably, the two gel bodies have substantially identical rheological properties.

The preferred antidandruff agent is ZPT, and this is suitably present in the composition in an amount of 0.1 to 2.5% by weight of the total composition. The weight ratios of the two bodies can vary within wide limits. For example, the weight ratio of the first gel body to the second gel body may be from about 1:9 to 9:1. A particularly suitable ratio is 1:1. The distribution of the two gel bodies can also vary widely in order to give different visual patterns. For example, one gel body may be completely contained within the other gel body, or one gel may be partly contained in the other gel body to form a stripe or stripes.

The desired rheological properties of the two gel bodies may be achieved by incorporating suitable thickening materials into the bodies. For example, the bodies may be thickened with a gum or thickening agent of either natural, or synthetic origin. Suitable thickening agents are, for example, proteins, silicas, alginates, sodium magnesium silicates, acrylic acid co-polymers, maleic anhydride co-polymers and cellulose ethers and esters.

It has been found desirable to use as a thickening agent a material which has secondary detergent and/or foam stabilising properties. One or more such foam stabiliser/thickener materials may be present in each gel body, and preferred materials are lauric isopropanolamide or coconut monoethanolamide. The amount of such a foam stabiliser/thickener is preferably from 0.5 to 7.0% by weight of the total composition.

Preferably each gel body contains one or more agents designed to improve the cosmetic condition of the hair after shampooing, by enhancing feel and gloss and reducing electrostatic flyaway. Such agents may comprise wholly or in part the detergent materials described above as providing a foam stabilising or thickening effect, or may comprise other agents with surface active properties, or certain polymeric materials. Suitable surface active materials are certain salts of ethoxylated fatty alcohol phosphate esters, particularly an oleyl alcohol derived material marketed under the trade name Briphos O3D. Suitable polymeric materials are cationic cellulosic resins marketed under the trade name Polymer JR 125,400 or 30M or quaternary of a vinyl pyrrolidone copolymer marketed under the trade name Gafquat 755N. A particularly effective material is a cationic guar gum sold under the trade name Jaguar C-13-S by Meyhall Chemicals Ltd. This may be present in either or both gel bodies in an amount from 0.1 to 5.0% by weight of the total composition.

The compositions according to the invention may include any conventional detergent well known in the art. For shampoo compositions, it is usual to use an anionic detergent, for example alkali metal, ammonium or hydroxyalkylamine salts of alkyl sulphates or alkyl ether sulphates, alkyl benzene sulphonates, alkyl

sulphones, α-alkenyl sulphonates, polyoxyethylenealkyl sulphonates and polyoxyethylenealkylphenylsulphates. However, non- ionic and amphoteric detergents may also be used. A preferred detergent comprises sodium lauryl ether sulphate. A shampoo composition preferably contains from 5 to 25% w/w of detergent (based upon 100% active material).

The compositions of the invention may also contain various conventional accessory ingredients such as perfumes, colouring materials and preservatives.

Both gel bodies may be coloured, if desired, provided the first gel body remains transparent or translucent.

The compositions of the invention may be made by charging a suitable container with the two gel bodies, using the method and apparatus described in British Patent Specification No. 962,757.

The present invention will now be illustrated by the following Examples.

Example 1

Ingredients	% w/w	
	First gel body	Second gel body
SLES (28%)	70.0	67.20
Lauric isopropanolamide	3.0	2.88
Coconut monoethanolamide	3.0	2.88
Cationic guar gum	0.5	0.48
Zinc pyrithione	-	2.0
Perfume, dyes, preservatives, etc	q.s.	q.s.
Water to	100.0%	100.0%

SLES (28%) refers to a 28% w/v aqueous solution of sodium lauryl ether sulphate.

The weight ratio of the two gel bodies is 1:1.

Example 2

Ingredients	% w/w	
	First gel body	Second gel body
SLES (28%)	65.0	65.0
Lauric isopropanolamide	2.88	2.88
Coconut monoethanolamide	2.88	2.88
Cationic guar gum	0.3	0.30
Zinc pyrithione	-	4.0
Perfume, dyes, preservatives, etc	q.s.	q.s.
Water to	100.0%	100.0%

The weight ratio of the first gel body to the second gel body is 3:1.

Example 3

Ingredients	% w/w	
	First gel body	Second gel body
SLES (28%)	75.0	73.0
Lauric isopropanolamide	2.75	2.68
Coconut monoethanolamide	2.75	2.68
Cationic guar gum	0.7	0.62
Zinc pyrithione	-	1.33
Perfume, dyes, preservatives, etc	q.s.	q.s.
Water to	100.0%	100.0%

The weight ratio of the first gel body to the second gel body is 1:3.

Example 4

Ingredients	% w/w	
	First gel body	Second gel body
SLES (28%)	70.0	67.2
Ethoxylated fatty alcohol	3.0	2.88
Sodium salt of an ethoxylated oleyl phosphate ester	3.0	2.88
Zinc pyrithione	-	2.0
Perfume, dyes, preservatives, etc	q.s.	q.s.
Water to	100.0%	100.0%

The weight ratio of the first gel body to the second gel body is 1:1.

Example 5

Ingredients	% w/w	
	First gel body	Second gel body
Triethanolamine lauryl sulphate	70.0	67.20
Linoleic diethanolamide	6.0	5.76
Quaternary derivative of a vinyl pyrrolidone copolymer	0.25	0.24
Zinc pyrithione	-	2.00
Perfume, dyes, preservatives, etc	q.s.	q.s.
Water to	100.0%	100.0%

The weight ratio of the first gel body to the second gel body is 1:1.

CLAIMS

1. A detergent composition comprising a first transparent or translucent gel body containing a detergent, and a second substantially opaque gel body, contiguous with the first gel body, containing an anti-dandruff agent.

2. A composition according to claim 1, in which the two gel bodies have substantially identical rheological properties.

3. A composition according to claim 1 or claim 2, in which the anti-dandruff agent comprises zinc pyridine thione.

4. A composition according to any one of claims 1 to 3, in which the weight ratio of the first gel body to the second gel body is from 1:9 to 9:1.

5. A composition according to any one of claims 1 to 4, in which one gel body is partly contained within the other gel body to form a stripe or stripes.

6. A container, containing a composition according to any one of claims 1 to 5, which includes a nozzle through which the composition may be extruded.

7. A container according to claim 6, in the form of a collapsible tube.

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